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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,141	07/11/2003	Martin Kaiser	13909-142001 / 2003P00391	1406
32864 7590 04/23/2007 FISH & RICHARDSON, P.C. PO BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER DAYE, CHELCIE L	
			ART UNIT 2161	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/617,141

Applicant(s)

KAISER ET AL.

Examiner

Chelcie Daye

Art Unit

2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,8,10,11,16,17 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,8,10,11,16,17 and 20-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

1. This action is issued in response to applicant's amendment filed February 12, 2007.
2. Claims 1-22 are presented. Claims 21 and 22 are added and claims 2,5-7,9,12-15,18,and 19 are cancelled.
3. Claims 1,3,4,8,10,11,16,17,and 20-22 are pending.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1,11, and 17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, newly amended claims 1,11, and 17 recite "storing, for the successor node, a data table including first and second object strings ...". However, the specification does not detail the successor node storing a data table, which includes first and second object strings. Within the 'Remarks' submitted, the applicant has pointed to pages 8 to 10 and 13 of the specification as containing support for the newly added features. Throughout pages 8 to 10 and 13, there is no exact or nearly exact mention of

the successor node storing a data table to include first and second object strings. In order to further prosecution, the claims will be given the broadest reasonable interpretation.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 1,4,8,10,11,16,17, and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes (US Patent No. 6,931,418) filed March 26, 2002, in view of Schultz (US Patent No. 6,029,162) filed February 17, 1998.**

Regarding Claims 1,11,and 17, Barnes discloses a method comprising:
storing data objects as nodes in a hierarchically-structured, multi-dimensional directed graph (column 5, lines 10-22, Barnes), the directed graph including a predecessor node, a first and a second given nodes, and a successor node (Fig.4A; column 5, lines 25-31, Barnes)¹, the successor node connected to the predecessor node via a first sequence of nodes including the successor

¹ Examiner Notes: Within Fig.4A, item 401 represents the predecessor node, item 411 represents the successor node, and item 403 and 404 represent a first and second given nodes, respectively.

node, the first given node, and the predecessor node (Fig.4A, Barnes)² and a second sequence of nodes including the successor node, the second given node, and the predecessor node (Fig.4A, Barnes)³. While Barnes does encompass a data table, Barnes however, is not as detailed with storing, for the successor node, a data table including first and second object strings, the first object string listing the predecessor node and the first given node, and the second object string listing the predecessor node and the second given node. However, Schultz discloses storing, for the successor node, a data table including first and second object strings, the first object string listing the predecessor node and the first given node, and the second object string listing the predecessor node and the second given node (Fig.13; Schultz)⁴. Barnes and Schultz are analogous art because they are from the same field of endeavor of retrieving data from relational databases. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Schultz's teachings into the Barnes system. A skilled artisan would have been motivated to combine as suggested by Schultz at column 3, lines 60-67, in order to provide a method of calculating critical paths through a graph that can be represented by tables, as a way of showing all of the routes or paths through the graph. As a

² Examiner Notes: Within Fig.4A, the successor node (411) is connected to the predecessor node (401) via a first sequence of nodes (401-403-408-411); wherein the first given node (403) is included.

³ Examiner Notes: Within Fig.4A, the successor node (411) is connected to the predecessor node (401) via a second sequence of nodes (401-404-409-411); wherein the second given node (404) is included.

⁴ Examiner Notes: Within Fig.13, a data table is shown, wherein the first row shows the path information from Chicago to Los Angeles, which corresponds to the first object string listing the predecessor node (i.e., Chicago) and the first given node (i.e., San Francisco). Also, row four shows the path information from Chicago to Los Angeles, which corresponds to the second object string listing the predecessor node (i.e., Chicago) and the second given node (i.e., Denver and San Francisco).

result, listing all of the connections between the vertices in a graph, thereby allowing for a more accurate and efficient retrieval of needed information.

Therefore, the combination of Barnes in view of Schultz, disclose receiving a query involving the successor node (columns 14-15, lines 60-67 and 1-8, respectively, Barnes); comparing the query to the first and second object strings (column 14, lines 13-17, Barnes); and resolving the query based upon comparing the query to the first and second object strings (Fig.4B; column 14, lines 17-27, Barnes).

Regarding Claim 4, the combination of Barnes in view of Schultz, disclose the first and the second object strings are stored in a third field of the data table (Fig.13; Schultz)⁵.

Regarding Claim 8, the combination of Barnes in view of Schultz, disclose the method further comprising storing coded relational information in the data table (column 10, lines 1-37, Barnes).

Regarding Claim 10, the combination of Barnes in view of Schultz, disclose the method wherein storing the data table further comprises updating

⁵ Examiner Notes: Within Fig.13, the source column represents the predecessor node, the destination column represents the successor node, and the path column represents the object strings. The first object string is represented by the first Chicago to Los Angeles path information (within the first row of the table) and the second object string is represented by the second Chicago to Los Angeles path information (within the fourth row of the table), all disclosed within the third field of the data table.

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the data table to reflect changes in the directed graph (column 7, lines 10-41, Schultz).

Regarding Claim 16, the combination of Barnes in view of Schultz, disclose the apparatus wherein the second code segment stores coded relation information in the data table (column 10, lines 1-37, Barnes).

Regarding Claim 20, the combination of Barnes in view of Schultz, disclose the system wherein the means for comparing the query to the first and second object strings comprises means for performing a pattern match between the query and the first object string and means for performing a pattern match between the query and the second object string (column 5, lines 29-33, Barnes).

Regarding Claim 21, the combination of Barnes in view of Schultz, disclose the method wherein the first sequence of nodes is different from the second sequence of nodes (Fig.4A, Barnes)⁶.

Regarding Claim 22, the combination of Barnes in view of Schultz, disclose the method wherein comparing the query to the first and second object strings further includes accessing the first and second object strings (column 9,

⁶ Examiner Notes: Within Fig.4A, the first sequence of nodes is represented by nodes 401-403-408-411 and the second sequence of nodes are represented by 401-404-409-411, which are different from one another.

lines 38-42, Barnes).

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes (US Patent No. 6,931,418) filed March 26, 2002, in view of Schultz (US Patent No. 6,029,162) filed February 17, 1998, and further in view of Tang (US Patent No. 5,454,102) filed January 19, 1993.

Regarding Claim 3, the combination of Barnes in view of Schultz, disclose storing data objects in a data table (column 10, lines 53-60, Barnes). However, the combination of Barnes in view of Schultz, are not as detailed with respect to storing each data object in a first column of the data table; and storing a relation of a first data object to a consecutive data object in a second field of the data table, where the consecutive data object is connected to the first data object in the directed graph by a single edge. On the other hand, Tang discloses storing each data object in a first column of the data table (Fig.8, item 84, Tang); and storing a relation (column 8, lines 54-59, Tang) of a first data object⁷ to a consecutive data object⁸ in a second field of the data table (Fig. 8, Tang), where the consecutive data object is connected to the first data object in the directed graph by a single edge (Fig. 9, items 204 and 205; column 10, lines 58-60, Tang). Barnes, Schultz, and Tang are analogous art because they are from the same field of computer databases for storing and retrieving data. It would have

⁷ Examiner Notes: The first data object corresponds to Recipient #1.

been obvious to one of ordinary skill in the art at the time of the invention to incorporate Tang's teachings into the Barnes in view of Schultz system. A skilled artisan would have been motivated to combine as suggested by Tang at column 2, lines 32-40, in order to create a node network which allows for the preservation of structured data along with the capabilities of storing and manipulating.

Response to Arguments

Applicant's arguments with respect to newly amended claims 1, 11, and 17, have been considered but are moot in view of the new ground(s) of rejection.

⁸ Examiner Notes: The consecutive data object corresponds to Facsimile.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

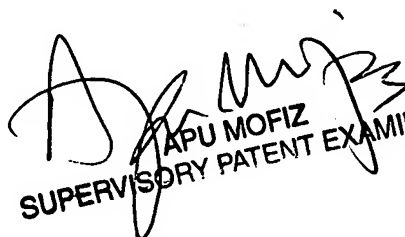
Points of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chelcie Daye whose telephone number is 571-272-3891. The examiner can normally be reached on M-F, 7:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chelcie Daye
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Technology Center 2100
April 18, 2007


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